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PATENT

#### IN THE UNITED STATES PATENT & TRADEMARK OFFICE

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Indira Saladi							
Applicant:	Helm, et al.	)					
		)	Examiner: Inder P. Mehra				
Appl. No.	09/728,359	)					
		)	Art Unit: 2666				
Confirm. No.	4118	)					
		)	Atty. Docket No. CM04662H				
Filed:	01 January 2000	)					
Title:	Methods for Achie	ving Re	liable Joins in a IP Multicast				

# TRANSMITTAL UNDER 37 CFR 41.31

Assistant Commissioner for Patents Alexandria, Virginia 22313

Sir:

HELM ET AL.

Appl. No. 09/728,359

TO:USPTO

The following is enclosed in response to the Notice of Appeal filed 14 November 2005.

- [X] Appeal Brief Under 37 CFR 41.37 (18 pages);
- [X] Fee Calculation Sheet (DUPLICATE).

Respectfully submitted,

### SEND CORRESPONDENCE TO:

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By:

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JAN 1 4 2006

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#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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JAN 1 4 2006

Before the Board of Patent Appeals and Interferences

Ex Parte:

HELM, DAVID

Application Number:

09/728,359

Filing Date:

December 1, 2000

Title:

Methods for Achieveing Reliable Joins

in a Multicast IP Network

Group:

2666

Examiner:

INDER P. MEHRA

#### BRIEF ON BEHALF OF APPELLANTS UNDER 37 CFR 41.37

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#### I. REAL PARTY IN INTEREST

The name of the real party in interest for purposes of this appeal is Motorola, Inc., a Delaware corporation.

#### II. RELATED APPEALS AND INTERFERENCES

There are no other appeals of interferences known to the Applicant, the Applicant's legal representative, or assignee which would directly affect or be directly affected by or having a bearing on the Board's decision in this pending appeal.

#### III. STATUS OF CLAIMS

Claims 2-6, 9-12, and 14-24 remain in the application. Claims 2-6, 9-12, and 22-24 are being appealed. Claims 2-6, 9-12, and 22-24 stand or fall together.

In the final Office Action dated August 16, 2004, the Examiner rejected Claims 2, 12, and 22 under 35 U.S.C. § 102(b) as being clearly anticipated by Cotton (USPN 4,740,954).

Further, the Examiner rejected Claims 3-4 and 6 under 35 USC 103(a) as being unpatentable over Cotton in view of Kumar (US Patent Application 2003/0043804). Further, the Examiner rejected Claim 5 under 35 USC 103(a) as being unpatentable over Cotton in view of Wagner (US Patent Application 2002/0006159). Further yet, the Examiner rejected Claims 9 and 23-24 under 35 USC 103(a) as being unpatentable over Cotton in view of Haggerty (USPN 6,331,983).

Finally, the Examiner rejected Claims 10 and 11 under 35 USC 103(a) over Cotton in view of Haggerty and further in view of Adelman (USPN 6,006,259).

The Examiner has allowed Claims 14-21.

Applicants note that this case has been in prosecution for over six years. The first office action was favorable and asked that Applicants make amendments that would place the case in the form for allowance. That is, the Examiner had objections to Claims 2, 15, and 16 to which

the Applicants responded by amending the claims as the Examiner had requested. Since that time, Applicants have continuously received rejection after rejection even after having a number of telephone interviews in which the Examiner seemed to agree with Applicants comments with reference to the prior art. With each continuing rejection, Applicants have not been able to move forward and ask that the Board intervene.

#### IV. STATUS OF AMENDMENTS

No amendments to the claims have been made subsequent to the final rejection mailed August 16, 2005.

#### V. <u>SUMMARY OF CLAIMED SUBJECT MATTER</u>

A novel method for a first host (can also be termed the "receiving host") to determine whether it has joined a multicast group address (Specification, page 4, lines 17-19). Particularly, upon receiving indicia that a second host is actively sourcing packets to the multicast group address, the first host/receiving host issues a join command in an attempt to join the multicast group address. If the first host receives a packet within a designated time period associated with the attempt, it is determined that the first host is joined to the multicast group address; otherwise, it is determined that the first host is not joined to the multicast group address (page 4, lines 23-27). Thus, the present invention provides for the host to detect a failed Join(s) relatively quickly (i.e., without relying on periodic updates from the router(s) of the network) so that, when necessary, the Join(s) may be re-accomplished to reduce or eliminate the likelihood that the receiving host(s) will lose critical information that may be conveyed in a talkgroup or point-to-point call (page 3, lines 12-17).

#### VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- (a) Whether Claims 2, 12, and 22 are patentable under 35 U.S.C. §102(b) over Cotton?
- (b) Whether Claims 3-4 and 6 are patentable under 35 USC 103(a) over Cotton in view of Kumar?
- (c) Whether Claim 5 is patentable under 35 USC 103(a) over Cotton in view of Wagner?
- (d) Whether Claims 9 and 23-24 are patentable under 35 USC 103(a) over Cotton in view of Haggerty?
- (e) Whether Claims 10 and 11 are parentable under 35 USC 103(a) over Cotton in view of Haggerty and further in view of Adelman?

#### VII. ARGUMENT

(a) Claims 2, 12, and 22 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Cotton (U.S. Patent No. 4,740,954).

#### MPEP § 2131 provides:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference."

Verdegaal Bros. v. Union Oil Co. of California, 814 F. 2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim ....

Regarding Claim 1, the Examiner asserts that Cotton discloses the elements of Applicants claimed invention, namely at a first host, receiving indicia that a second host is actively sourcing one or more packets addressed to a multicast group address, issuing a join command, and

determining whether any packets are received within a designated time period after the step of issuing a join command. Office Action, August 16, 2005, pages 4-5. It is noted that the Examiner's reliance upon Cotton appears to be misplaced.

Contrary to the Examiner's statement that all elements are disclosed in the Cotton reference, the steps of "at a first host ... receiving indicia that a second host is actively sourcing one or more packets addressed to a multicast group address, ... issuing a join command; and determining whether any packets are received within a designated time period after the step of issuing a join command" are not, so the rejection is unsupported by the art and should be withdrawn.

Described by Cotton is a multicast routing algorithm such that the *network* determines which hosts wish to join/leave a multicast conversation. A host that wishes to participate (join) a multicast conversation transmits packets to the multicast address, and when it wishes to stop participating (leave) the multicast conversation, the host stops transmitting packets to the multicast address. The *network* builds a table of hosts that wish to participate in the multicast conversation based on the packets transmitted to the multicast address within a maximum interpacket time interval, but smaller than the Maxtime. If a packet is not received from a host prior to the Maxtime, the *network* clears the relevant table entry corresponding to the host from the table. Thus, Cotton discloses how the *network* keeps tracks of hosts who wish to participate in the multicast group by adding and deleting entries into a table [see column 3, lines 10-29]. Nowhere does Cotton teach, either expressly or inherently, the *host* determining whether it has successfully joined the multicast group address based on the *host* receiving packets within a designated time period.

The Examiner appears to be stating that Cotton's disclosure of a network determining which hosts wish to join/leave a multicast conversation is the same as Applicants' claimed steps of "at a first host ... receiving indicia that a second host is actively sourcing one or more packets

addressed to a multicast group address, ... issuing a join command; and determining whether any packets are received within a designated time period after the step of issuing a join command ...." This is not true. Cotton only describes the functions of a network. In interpreting pending claim terms, the Examiner is reminded that MPEP 2111 requires that pending claims be given their broadest reasonable interpretation *consistent* with the specification. The claims require that the steps be performed by a first host, and not a network or some other entity. As such, the Examiner should not read the limitation to "host" to encompass Cotton's network.

Thus, the limitations to "at a first host ... receiving indicia that a second host is actively sourcing one or more packets addressed to a multicast group address, ... issuing a join command; and determining whether any packets are received within a designated time period after the step of issuing a join command" are missing from the Cotton reference. Since limitations are missing from the Cotton reference, a rejection of Claims 2, 12, and 22 under 35 U.S.C. § 102(b) is improper and should be withdrawn.

For the reason set forth above, Applicants submit that the Examiner has incorrectly rejected Claims 2, 12, and 22 under 35 U.S.C. § 102(b) and request that the Board withdraw the rejection.

(b) Claims 3-4 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cotton in view of Kumar (US Patent Application 2003/0043804).

This is a first rejection of Claims 3-4 and 6 with the Cotton/Kumar combination. After a careful review of Cotton, Kumar, and the claims, it is believed that the rejection is in error.

Notwithstanding the lack of teaching by Cotton of Applicants' claimed invention, as mentioned above in section (a), Applicants claimed invention has an application filing date of January 1, 2000 whereas the Kumar reference has a priority of August 30, 2001. Applicants

believe that such a rejection of Claims 3-4 and 6 under 35 U.S.C. § 103(a) is in error and the Board should withdraw the rejection.

(c) Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Cotton in view of Wagner (US Patent Application 2002/0006159).

Notwithstanding the lack of teaching by Cotton of Applicants' claimed invention, as mentioned above in section (a), Wagner is not "analogous" prior art for the purpose of analyzing the obviousness of the subject matter at issue. Wagner pertains to "receiving antennas." Wagner, abstract, technical field, summary, claims. In contrast, Applicants' invention is drawn to multicast networks. Applicants' Title and multiple references to multicast in the Applicants' Specification, e.g. pg. 3, line 11, FIG. 1, etc. In contrast, nowhere in Wagner is there mention of "multicast" nor is the general term network present in the Wagner patent. As is known to a person of ordinary skill in the art, the "receiving antennas" technology of Wagner is irrelevant to the "multicast" technology of the present invention. For example, a network engineer working with multicast technology would normally not understand the "receiving antennas" technology of Wagner, because the former is expert with "software" and the latter is expert with "hardware." In any case, because Wagner is not concerned with "multicast" technology and is drawn to "receiving antennas" technology, Wagner is not "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. Since Wagner is not "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue, the rejection of Claim 5 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

For the reasons set forth above, Applicants submit that the Examiner has incorrectly rejected Claim 5 and request that the Board withdraw the rejection.

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(d) Claims 9 and 23-24 are rejected under 35 USC 103(a) over Cotton in view of Haggerty.

Notwithstanding the lack of teaching by Cotton of Applicants' claimed invention, as mentioned above in section (a), the Cotton/Haggerty combination also fails as a proper basis of Applicants' claims.

#### MPEP § 2141.03 requires:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Regarding Claims 9 and 23-24, "the step of issuing a join command" is not taught or suggested by the Haggerty reference. Applicants' claims require that "the first host, wherein the first host ... receives indicia that a second host is actively sourcing one or more packets addressed to a multicast packet" issue the step of "issuing a join command." The Examiner has taken the step of "issuing a join command" out of the context of Applicants' claims, whereas Applicants' claims requires that the step of issuing a join command be performed by a "first host receiving indicia that a second host is actively sourcing one or more packets."

In contrast to the present invention, Haggerty discloses a multicast switching method whereby the sender (not the receiver) of a multicast message starts a timer upon transmission of the message and waits for acknowledgment from the receivers. If the timer expires prior to receiving an acknowledgement from a given receiver, the sender resends the message to the given receiver (col. 17, lines 39-45). Nowhere does Haggerty teach, suggest or make obvious ... the first host...issuing a join command"

Since such a limitation is not taught or suggested by the Haggerty reference, the Cotton/Haggerty combination fails to teach or suggest Applicants' claimed invention. Thus, the rejections under 35 U.S.C. § 103(a) are improper and should be withdrawn. For the reasons set forth above, Applicants submit that the Examiner has incorrectly rejected Claims 9 and 23-24 and request that the Board withdraw the rejection.

(e) Claims 10 and 11 are rejected under 35 USC 103(a) over Cotton in view of Haggerty and further in view of Adelman.

Not withstanding the lack of teaching by Cotton as mentioned above in section (a) and the lack of teaching by the Cotton/Haggerty combination as mentioned above in section (d), the Cotton/Haggerty/Adelman combination also fails to teach or suggest Applicants' claimed invention.

As noted above, MPEP § 2141.03 requires that the all the claim limitations be taught or suggested by the prior art. The Examiner states that the step of "re-attempting to join the multicast group address" is missing from the Cotton/Haggerty combination and utilizes Adelman to fill this gap. However, Adelman also fails to teach or suggest such a step. The Examiner seems to equate a teaching to join a cluster again with Applicants' claim of "re-attempting to join the multicast group address" and such is an error. Applicants' claims require the limitation to "re-attempting to join the multicast group address" not to re-attempting to join a cluster, which is the teaching of Adelman. Since such a teaching is missing from the Adelman reference, the rejection under Cotton/Haggerty/Adelman is improper and should be withdrawn.

Further, MPEP § 2141.02 requires that the claimed invention as a whole be considered. Section 2141.02 provides that "in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.

Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 (Fed. Cir. 1983)." [emphasis in original] "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of the other parts necessary to the full appreciation of what such references fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391 (CCPA 1965). The Examiner has used impermissible hindsight to pick and choose references to find Applicants' claimed invention obvious. However, MPEP § 2141.02's requirement is not whether a step or limitation is obvious, but whether Applicant's invention as a whole is obvious. Since the Examiner did not consider the claimed invention as a whole, the rejections under 35 U.S.C. § 103 (as in above sections (b) through (e)) are improper and should be withdrawn.

For the reasons set forth above, Applicants submit that the Examiner has incorrectly rejected Claims 10 and 11 and request that the Board withdraw the rejection.

Respectfully submitted,

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hv

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#### VIII. CLAIMS APPENDIX

Claim 1 (previously cancelled)

Claim 2 (previously presented) In a multicast network, a method comprising: at a first host, wherein the first host is an endpoint of the multicast network that receives one or more packets addressed to a multicast group address:

receiving indicia that a second host is actively sourcing one or more packets addressed to a multicast group address, wherein the second host is an endpoint of the multicast network;

issuing a join command to the one or more network devices in an attempt to join the multicast group address;

determining whether any packets are received within a designated time period after the step of issuing a join command; and

if any packets are received by the first host within the designated time period, determining that the first host is joined to the multicast group address; otherwise, if any packets are not received by the first host within the designated time period, determining that the first host is not joined to the multicast group address.

Claim 3 (previously presented): The method of claim 2, wherein the packet is one of a test packet and a payload packet.

Claim 4 (previously presented): The method of claim 3, wherein the payload packet comprises any one of an audio payload, a data payload, a video payload, and a multimedia payload.

Claim 5 (previously presented): The method of claim 2 further comprising the step of receiving at least one test packet before receiving a payload packet.

Claim 6 (previously presented): The method of claim 2 comprising the step of receiving a call grant message comprising the multicast group address.

Claim 7 (previously cancelled)

Claim 8 (previously cancelled)

Claim 9 (previously presented): The method of claim 2, wherein the step of issuing a join command comprises, sending an IGMP Join message to one or more network devices.

Claim 10 (previously presented): The method of claim 2 further comprising the step of, if the first host is determined to not be joined to the multicast group address,

issuing a leave command to the one or more network devices; and re-attempting to join the multicast group address, comprising the steps of:

issuing a second join command to the one or more network devices in a second attempt to join the multicast group address;

determining whether any packets are received within a designated time period after the step of issuing a second join command; and

if any packets are received within the designated time period, determining that the first host is joined to the multicast group address; otherwise, if any packets are not received within the designated time period, determining that the first host is not joined to the multicast group address.

Claim 11 (previously presented): The method of claim 10, wherein the step of issuing a leave command comprises, sending an IGMP Leave message to one or more network devices.

Claim 12 (previously presented): The method of claim 2, wherein the step of determining whether any packets are received within a designated time period comprises the steps of:

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starting a timer having a predetermined expiration time; and determining whether any packets addressed to the multicast group address are received by the first host before the predetermined expiration time.

Claim 13 (previously cancelled)

Claim 14 (previously presented): The method of claim 15 further comprising, if the second host is determined to not be joined to the first multicast group address,

issuing, by the second host, a leave command to the one or more network devices; and re-attempting to join the first multicast group address, comprising:

issuing, by the second host, a second join command to the one or more network devices in a second attempt to join the first multicast group address;

determining whether any packets are received by the second host within a designated time period associated with the second attempt; and

if any packets are received by the second host within the designated time period, determining that the second host is joined to the first multicast group address; otherwise, if any packets are not received by the second host within the designated time period, determining that the second host is not joined to the first multicast group address.

Claim 15 (previously presented): In a multicast network, a method comprising: sending, from a controller to a first and second host desiring to participate in a point-to-point call, a first and second multicast group address, wherein the first and second host are endpoints of the multicast network that source and receive one or more packets addressed to multicast group addresses;

sending, from the first host to one or more network devices, one or more packets addressed to the first multicast group address;

issuing, by the second host, a join command to the one or more network devices in an attempt to join the first multicast group address;

determining whether any packets are received by the second host within a designated time period associated with the attempt; and

if any packets are received by the second host within the designated time period, determining that the second host is joined to the first multicast group address; otherwise, if any packets are not received by the second host within the designated time period, determining that the second host is not joined to the first multicast group address;

sending, from the second host to one or more network devices, packets addressed to the second multicast group address;

issuing, by the first host, a join command to the one or more network devices in an attempt to join the second multicast group address;

determining whether any packets are received by the first host within a designated time period associated with the attempt; and

if any packets are received by the first host within the designated time period, determining that the first host is joined to the second multicast group address; otherwise, if any packets are not received by the first host within the designated time period, determining that the first host is not joined to the second multicast group address.

Claim 16 (previously presented): The method of claim 15 further comprising, if the first host is determined to not be joined to the second multicast group address,

issuing, by the first host, a leave command to the one or more network devices; and re-attempting to join the second multicast group address, comprising:

issuing, by the first host, a second join command to the one or more network devices in a second attempt to join the second multicast group address;

determining whether any packets are received by the first host within a designated time period associated with the second attempt; and

if any packets are received by the first host within the designated time period, determining that the first host is joined to the second multicast group address; otherwise, if any packets are not received by the first host within the designated time period, determining that the first host is not joined to the second multicast group address.

Claim 17 (previously presented): The method of claim 15, wherein the packet comprises one of test packet and payload.

Claim 18 (previously presented): The method of claim 15, wherein the payload comprises any one of an audio payload, a data payload, a video payload, and a multimedia payload.

Claim 19 (previously presented): The method of claim 15, wherein the step of sending packets comprises sending multiple test packets before sending payload.

Claim 20 (previously presented): The method of claim 19, wherein the step of sending packets further comprises sending multiple test packets after sending payload.

Claim 21 (previously presented): The method of claim 15 wherein the step of sending first and second multicast group addresses comprises sending, from a controller to the first and second hosts, call grant messages including the first and second multicast group addresses.

Claim 22 (previously presented): A communication system comprising:

a controller being operable to identify a multicast group address to be used for distributing packet information to participating receiving devices, wherein the participating receiving devices are endpoints of the communication system that source and receive packets on the multicast group address;

a multicast packet network for distributing the multicast group address to the participating receiving devices, the packet network being adapted to set up a multicast distribution tree between participating receiving devices having successfully joined the multicast group address; and

means for determining whether the participating receiving devices have joined the multicast group address based on whether the participating receiving devices receive any packets on the multicast group address before expiration of a designated time period.

Claim 23 (previously presented): The method of claim 2 wherein the first and second hosts are selected from the group consisting of: a portable wireless communication device, a mobile wireless communication device, a wire-line communication device, a wire-line console, a repeater, a site controller, a comparator, a telephone interconnect device, an internet protocol telephony device, a call logger, a scanner and a gateway.

Claim 24 (previously presented): The method of claim 22 wherein the participating host devices are selected from a group consisting of: a portable wireless communication device, a mobile wireless communication device, a wire-line communication device, a wire-line console, a repeater, a site controller, a comparator, a telephone interconnect device, an internet protocol telephony device, a call logger, a scanner and a gateway.

# IX. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132, entered by the examiner and relied upon by the appellant in the appeal, or relied upon by the examiner as to grounds of rejection to be reviewed on appeal.

# X. RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by a court of the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. § 41.37.